50001 Ready Sample Design Guide Version 1.1

1. INTRODUCTION

1.1 What is 50001 Ready?

50001 Ready is a self-guided approach for facilities to establish a continuous energy improvement practice in conformance with the ISO 50001 voluntary standard for energy management systems in industrial, commercial, and institutional facilities. ISO 50001 is designed to link the C-suite with facility personnel to better value and plan for energy improvement. The standard is complementary to other professional benchmarks and certifications, such as ENERGY STAR or LEED; implementation of an ISO 50001 structure can improve a facility's performance within other energy commitments or credentials. 50001 Ready offers:

1. A self-paced, no cost, do-it-yourself approach to implement ISO 50001 practices without certification
2. Guidance to identify facility-wide energy use and develop action plans for performance improvement
3. Ability for a 3rd party implementer to provide technical support and help desk functions as needed
4. A means to quantify and track overall facility energy savings across all fuels, including the ability to separate capital projects from operations and maintenance (O&M) improvements
5. 50001 Ready recognition upon accomplishment of self-attested achievement, without external audits

1.2 What value does 50001 Ready bring to program administrators and implementers?

50001 Ready resources are designed to be handed off to program implementers—including utilities, states, municipalities, public benefits administrators, disclosure groups, and other membership organizations—as a direct offering for their customers. 50001 Ready can be structured either as an energy program or as a customer engagement platform for increased customer satisfaction.

Energy Program. 50001 Ready offers implementers the ability to engage customers and build long-term relationships to quantify O&M savings and develop a pipeline of future improvement opportunities. 50001 Ready can also be the springboard for deeper strategic energy management (SEM) programs.

Customer Satisfaction. 50001 Ready offers the ability to provide a service for key customers to build relationships and assist in understanding, planning and managing energy. The implementer can offer the 50001 Ready tools and provide customer support to maintain contact throughout the process.

More details on 50001 Ready and ways it can be used by a Program Administrator can be found on DOE's 50001 Ready website.

1.3 What are the 50001 Ready Utility Program Sample Designs?

The 50001 Ready SEM Utility Program Sample Designs (Sample Designs) are sample designs that highlight how energy efficiency program administrators and/or implementers are using or can use 50001 Ready to supplement their existing offerings. They are available on DOE's 50001 Ready website.

The Sample Designs are high-level summaries that show sample approaches to integrating 50001 Ready and range from simple workshops to multi-year SEM[1] programs. They use 50001 Ready Navigator and its 25 tasks as the backbone for their structure and are meant to show how a utility and/or implementer can bring a customer to 50001 Ready. 50001 Ready Navigator is an online application that provides step-by-step guidance for implementing and maintaining an energy management system in conformance with the ISO 50001 Energy Management System Standard. Appendix 1 lists the 25 tasks defined by 50001 Ready Navigator.

2. 50001 READY UTILITY PROGRAM SAMPLE DESIGN ELEMENTS

The reference designs are all organized by units. The units help to organize objectives and outcomes into a clear timeframe, for both the program and the customer. They help clarify objectives and activities into distinct timelines. Depending on the resources available to a program and the chosen design goals, units might include both workshops and individual activities. A unit could last anywhere from one month to six months, depending on both the length of the overall program and the objectives of the unit.

2.1 Workshops

Workshops are sessions that help teach general materials to customers. Depending on the program's goals and resources, the workshops can be done individually or in groups, and the materials can be shared face-to-face or on-line. Many utility programs have found that workshops can be highly effective when provided face-to-face to a small group of companies (often called a cohort), encouraging peer-to-peer interaction, learning and relationships, and helps create accountability between peers. However, face-to-face workshops can be costly and some SEM programs are exploring how to use on-line tools to teach materials in a more cost-effective manner. Additionally, many existing programs have found that some customers prefer to have the materials presented to them individually and for very large customers that can also be cost effective.

As a general best practice face-to-face, multi-facility workshops should last at least four hours and depending on the content, they should typically last six to eight hours. This type of workshop should encourage peer interaction and learning, and should provide time for participants to think through how the general concepts introduced apply to their specific situation. On-line workshops should be shorter as peer-to-peer learning and networking is more difficult using on-line tools.

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[1] Strategic Energy Management or SEM is the name used by program administrators who worked with the Consortium for Energy Efficiency's (CEE) industrial SEM initiative to define "a continuous improvement approach to reducing energy intensity over time…". More details on CEE's Industrial SEM Initiative are available at: https://library.cee1.org/content/cee-industrial-strategic-energy-management-initiative/

The format of the workshops will vary depending on the program goals, unit objectives, and available resources.
For example:
1. Program A is looking to work with larger industrial facilities and will look to claim savings from the program.
2. Program B is targeting medium manufactures and will not claim savings, relying on additional custom project savings to justify the expense of the program.

It is likely that program A would have significantly more resources available than program B. Their workshops would likely look very different as well, with program A likely providing more workshops and holding them primarily face-to-face with a group of customers (but being open to providing the workshop to an individual facility if the need arose). To keep program costs down, program B would likely offer less workshops and would likely offer them through a combination of face-to-face and on-line, to a group of customers.

Neither approach is "better", they both simply reflect the reality of the program's approach, goals, and available resources.

US DOE's 50001 Ready tools and resources can be used by either face-to-face or on-line workshops, and it can also be used either in group or individual teaching environments. 50001 Ready's Navigator provides significant on-line materials that can be used in the development of workshop materials. In addition, Navigator's tasks are organized into four sections, which can easily be used to develop content for workshops.

2.2 Site-Specific activities

Site-Specific activities are activities in which customer staff from a facility apply concepts introduced during the workshops, often with customized support from the program. Through these activities, customers apply the general concepts they learned in a workshop to their specific situation. These activities are meant to be completed by customer staff with program staff playing an individualized, supporting, but not central role. Depending on both the content of the site-specific activity and the resources available to the program, the program support for these activities can take place either at the facility or on-line. Not all programs will need site-specific activities, and some programs can use existing resources or programs to support these kinds of activities.

Generally, site-specific activities can be divided into three categories:
1. Programmatic: these activities help introduce the customer to program-specific expectations, such as evaluation requirements, executive commitment expectations, data collection timing, etc. These activities typically take place early in the program to ensure customer and program expectations are aligned. As with all site-specific activities, the depth and timing of programmatic activities will depend on the goals of the programs and resources available to the program.
2. Energy Management System activities: these activities support the customer in completing tasks that support the development of their energy management system but may not require technical resources, for example training employees or conducting an internal audit of the management system. Again, depending on the goals of the program, these activities can take place throughout the customer engagement.

3. Technical activities: these activities support the customer in completing tasks that require technical or specialized resources. These tasks can include identifying improvement opportunities, data analysis, or calculating energy savings.

US DOE's 50001 Ready tools and resources can be used by to support any of these activities. 50001 Ready's Navigator provides significant on-line materials, including templates, samples, and detailed descriptions, that can be shared with customers.

If you would like more information on the Reference Designs or on how to use 50001 Ready resources to support your customers and programs, please contact Sandy Glatt at sandy.glatt@ee.doe.gov

APPENDIX

The 50001 Ready Navigator is an online guide for establishing an energy management system to plan, identify, prioritize, and implement projects that will improve your facility's energy performance. Completion of the 50001 Ready Navigator prepares facilities to pursue certification to the international best practice for energy management systems, ISO 50001.

Building on the structure of ISO 50001, the US Department of Energy has outlined 25 tasks with supporting guidance that your team will need to complete in order to implement a *50001 Ready* system.

The 25 tasks are grouped into four sections:
   o Planning (tasks 1-5)
   o Energy Review (tasks 6-13)
   o Continual Improvement (tasks 14-18)
   o System Management (tasks 19-25)

The following is a complete list of all 50001 Ready Navigator Tasks.

Section 1: Planning		
Task 1	Scope and Boundaries	We have defined, documented and approved the Scope and Boundaries of our 50001 Ready energy management system
Task 2	Energy Policy	We have developed an energy policy statement, which has been approved by top management
Task 3	Management Commitment	Our top management has expressed its commitment to the 50001 Ready system, and are aware of their roles and responsibilities
Task 4	Energy Team	We have established an energy team that meets regularly and includes a management representative. Roles and responsibilities have been defined for the energy team and all affected personnel.
Task 5	Legal Requirements	We have identified energy-related legal requirements that apply to our operations, have a process to evaluate and update these over time, and evaluated our compliance with them
Section 2: Energy Review		

Task 6	Data Collection	We have identified all our energy sources and uses and accurately collected the related energy consumption data
Task 7	Data Analysis	We have analyzed our energy consumption data at the system/equipment level
Task 8	Significant Energy Uses (SEUs)	We have determined our Significant Energy Uses (SEUs) and determined their energy performance, estimated future consumption and have a plan for reviewing and updating them.
Task 9	Relevant Variables	We have determined the relevant variables that affect energy consumption of each SEU and collected the associated data.
Task 10	Performance Indicators (EnPIs)	We have identified energy performance indicators (EnPIs) and developed a methodology for determining and updating them.
Task 11	Baselines, Objectives and Targets	We have established an energy baseline(s), approved objectives and energy performance improvement targets, and timeframes for their achievement
Task 12	Improvement Opportunities	We have identified and prioritized energy performance improvement opportunities, and have a process in place to continue to update them
Task 13	Improvement Projects	After using a documented project selection process, we have developed action plans and implemented energy improvement projects
Section 3: Continual Improvement		
Task 14	Monitoring	We have ongoing monitoring and analysis of our energy consumption, SEUs, relevant variables, and action plan progress and effectiveness
Task 15	Measurement	We have an energy measurement plan, reviewed periodically, which defines, organizes and documents our monitoring and measurement activities, and ensures they are accurate and repeatable.
Task 16	Operational Controls	We have set operations and maintenance criteria for our SEUs, operate them accordingly, and communicate these controls to relevant personnel

Task 17	Corrective Actions	We investigate and respond to significant deviations in energy performance and potential issues with the 50001 Ready system, taking corrective and preventative actions as needed
Task 18	Energy Consideration in Design	We consider energy performance opportunities when designing new, modified, or renovated facilities, equipment, systems and processes

Section 4: System Management

Task 19	Documentation and Records	We have developed and have processes in place to control the 50001 Ready systems documents and records
Task 20	Communications	All organizational personnel have been informed about our energy policy and their roles and responsibilities, and solicited for suggestions. We have determined the policy and method (if applicable) for external communications about our energy policy/performance.
Task 21	Training	Training needs for the 50001 Ready system and the SEUs have been identified, and staff and contractors have been trained as needed to ensure they are qualified for their energy management role
Task 22	Procurement	We have established energy performance criteria spanning the operating life for purchases affecting energy performance, informed suppliers that this is a factor in procurement, and have defined and currently use specifications for energy supply purchases
Task 23	Internal Audit	We have conducted internal audits of the 50001 Ready system and reported those results and corresponding corrective/preventive action items to top management
Task 24	Calculate Energy Savings	We have determined our energy performance improvement.
Task 25	Management Review	Top management has periodic reviews of the 50001 Ready energy management system and our organization's energy performance.